UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/553,990	04/20/2000	Youhao Xu	456962000200	5903

25226 7590 10/20/2006

MORRISON & FOERSTER LLP
755 PAGE MILL RD
PALO ALTO, CA 94304-1018

EXAMINER	
LEUNG, JENNIFER A	

ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/553,990	XU ET AL.	
	Examiner	Art Unit	
	Jennifer A. Leung	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6-11,14-27,30-40 and 49-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6-11,14-27,30-40 and 49-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6-23-06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment submitted on August 3, 2006 has been received and carefully considered. Claims 4, 5, 12, 13, 28, 29, 36, 37 and 41-48 are cancelled. Claims 1-3, 6-11, 14-27, 30-40 and 49-58 are currently active.

Response to Arguments

2. Applicant's arguments filed August 3, 2006 have been fully considered but they are not persuasive.

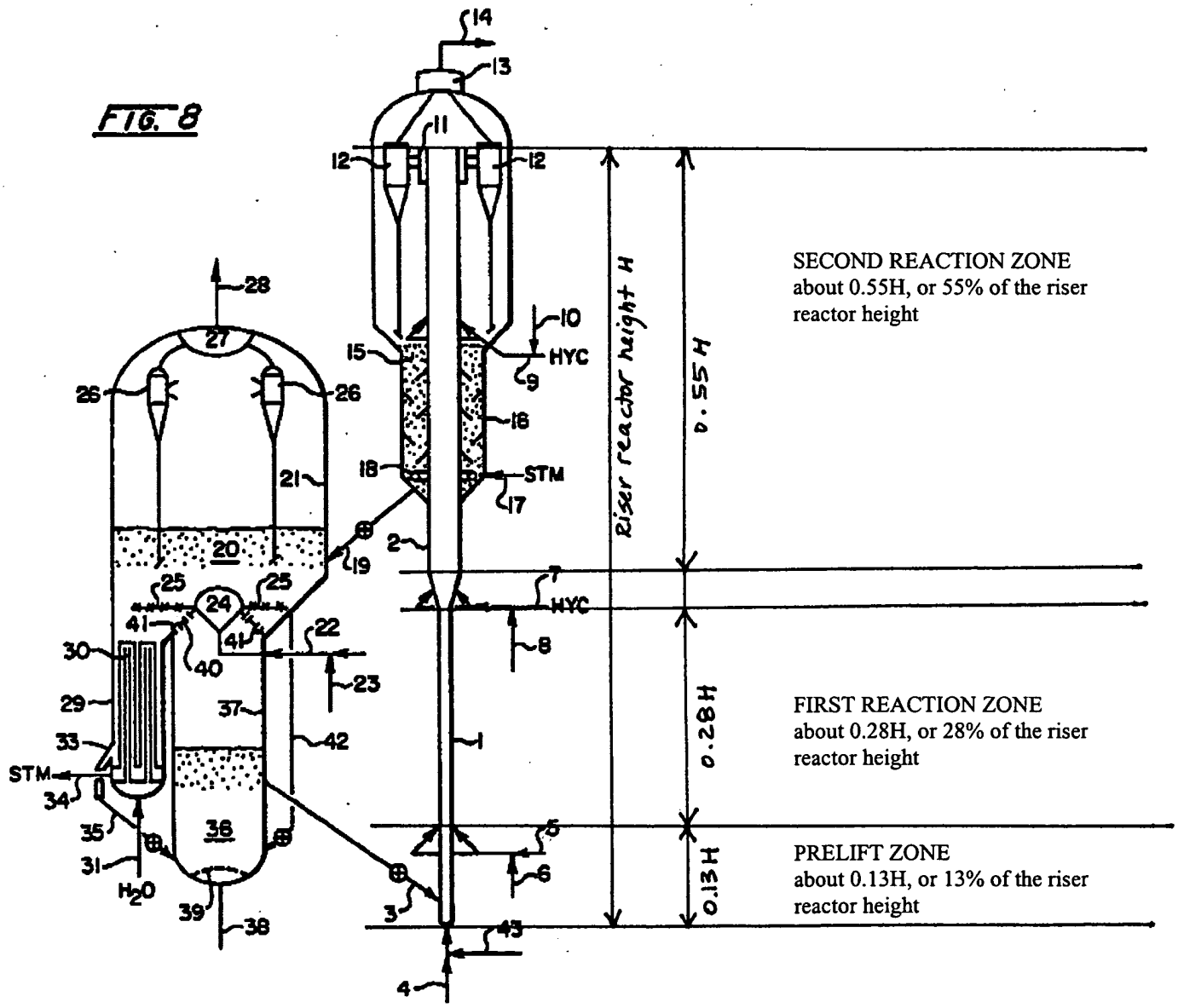
On page 14 (last paragraph) to page 17 (second paragraph), Applicants present a series of calculations in an attempt to show that the modified apparatus of Kmecak et al. does not satisfy the requirements of 35 U.S.C. 103(a). Regardless of the validity of Applicants' assumptions or the correctness of Applicants' calculations, the Examiner maintains that the modified apparatus of Kmecak et al. meets the claims. The calculations presented merely confuse the issues at hand.

Firstly, Applicants' claim 1 is an apparatus claim. Apparatus claims cover what a device is, and not what a device does. In claim 1, the structure of the riser reactor includes:

a prelift zone having a prelift zone diameter and a prelift zone height; a first reaction zone having a substantially constant first reactor zone diameter and a first reaction zone height, wherein the ratio of the first reaction zone diameter to the prelift zone diameter is about 1:1 to about 2:1, and the height of the first reaction zone is from about 10% to about 30% of the height of the riser reactor; a second reaction zone having a second reaction zone height and a second reaction zone diameter that is larger than the first reaction zone diameter, wherein the ratio of the second reaction zone diameter to the first reaction zone diameter is about 1.5:1 to about 5:1 and

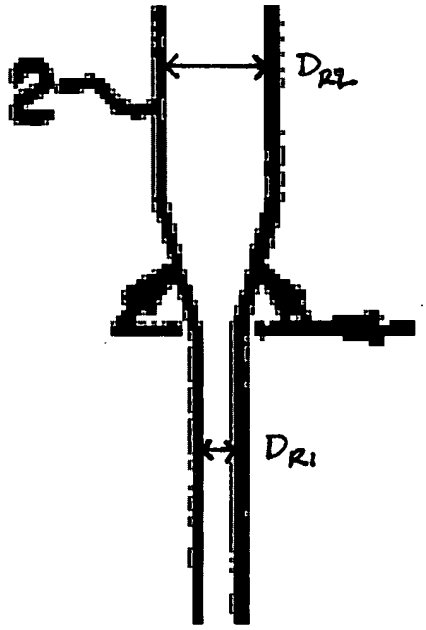
the height of the second reaction zone is in the range of from about 30% to about 60% of the height of the riser reactor; and an optional outlet zone having an outlet zone diameter that is reduced with respect to the second reaction zone diameter.

Looking now to FIG. 8 of Kmecak et al., we see that the riser reactor **1/2** essentially meets all of the claimed structural requirements:

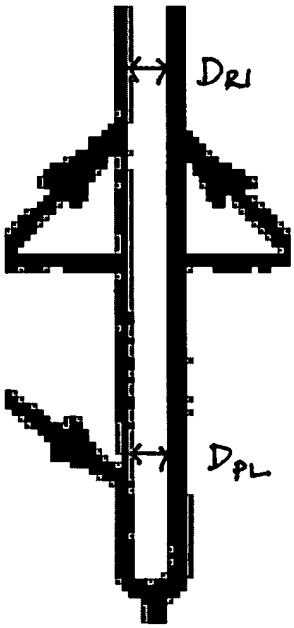


where H = total riser reactor height

Also, an enlargement of the transition between the first reaction zone and the second reaction zone (A) and an enlargement of the transition between the prelift zone and the first reaction zone (B) is provided below, to illustrate the ratio of diameters between the second reaction zone and the first reaction zone.



(A)



(B)

where:

D_{PL} = prelift zone diameter

D_{R1} = first reaction zone diameter

D_{R2} = second reaction zone diameter

The figures clearly show that,

D_{R2}:D_{R1} is equal to approximately 3:1

D_{R1}:D_{PL} is equal to approximately 1:1.

Because no structural differences exist between Applicants' riser reactor and Kmecak et al.'s riser reactor, the prior art riser reactor must, inherently, be capable of performing the intended use described by Applicants.

Please note also that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963).

Secondly, it is noted that Applicants' arguments and corresponding calculations only address Kmecak. The Examiner's rejections, however, are based on the combined teachings of Kmecak and Williams. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). As stated in the rejections, Kmecak et al. essentially discloses Applicants' riser reactor in FIG. 8, but the various diameters, heights, ratios, etc. of the riser reactor dimensions are determined by drawing only. Hence, the reference to Williams was relied upon to show that even if the dimensions drawn by Kmecak et al. were not exactly precise, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select the appropriate dimensional ranges for the riser reactor of Kmecak et al., on the basis of suitability for the intended use thereof, because the precise dimensions of the respective zones of the riser reactor would have been considered a result effective variable by one having ordinary skill in the

art. In particular, Williams et al. (column 4, lines 21-29) teaches a riser reactor wherein,

> "In each of the reactor sections **9**, **10**, **11** and **12**, reaction conditions suitable for substantially optimum conversion of the various hydrocarbon feedstreams introduced into the successive sections of the riser reactor to the desired products may be obtained by variations in vapor velocity, catalyst loading, feed preheats, and regenerator temperature. *The length and diameter of the various sections of reactor 2 are proportioned to maintain a desired reaction time in each section.*"

Accordingly, one having ordinary skill in the art would have routinely optimized the length and diameter of the various zones of the riser in the apparatus and process of Kmecak et al. in order to obtain the desired reaction conditions within each zone for achieving an optimum conversion of a specified hydrocarbon feed, *In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980), and where the general conditions of a claim are disclosed in the prior art, discovering optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-3, 6, 7, 9-11, 14, 15, 17-23, 25-27, 30, 31, 33-35, 38, 39, 49-51 and 54-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kmecak et al. (EP 0 171 460) in view of Williams (US 4,422,925).

Regarding claims 1, 17, 20, 21 and 25, Kmecak et al. (see FIG. 8; generally, page 38, line 13 to page 41, line 20) discloses a riser reactor and a corresponding process of conducting a hydrocarbon cracking reaction in the riser reactor, wherein the riser reactor (i.e., including portions **1** and **2**), having a riser reactor height and a reactor bottom, comprises, in order from the reactor bottom,

a) a prelift zone (i.e., the restricted diameter portion of the riser **1**, located between the lift gas inlet conduit **4** and the charge oil inlet conduit **5**) having a prelift zone diameter and a prelift zone height and containing catalyst cracking catalyst (i.e., a cracking catalyst, introduced in regenerated form via conduit **3**; page 43, lines 7-26; also, page 14, line 3 to page 17, line 23), the prelift zone being adapted to lift the catalyst to a first reaction zone (i.e., located immediately downstream from inlet **5**) without cracking hydrocarbons in that prelift zone (i.e., the lift gas to the inlet conduit **4** for contacting the regenerated catalyst is a dry hydrogen containing gas, optionally supplemented with steam and/or water, and most preferably containing about 0-6% C3-plus hydrocarbons. Such contact is conducted prior to contacting the regenerated catalyst with heavy oil feed supplied via conduit **5** to be cracked. See page 28, lines 9-25; page 44, line 12 to page 46, line 2);

b) the first reaction zone (i.e., the restricted diameter portion of the riser **1**, located between the charge oil inlet conduit **5** and the frusto-conical transition section to portion **2**, not labeled) having a constant first reaction zone diameter and a first reaction zone height, the first reaction zone containing catalytic cracking catalyst lifted from the prelift zone and reacting a hydrocarbon (i.e., received from the charge oil inlet **5**) in the first reaction zone; and

c) a second reaction zone (i.e., the expanded or larger diameter portion of the riser **2**) having a second reaction zone diameter that is larger than the first reaction zone diameter and containing catalytic cracking catalyst and reacted hydrocarbons from the first reaction zone.

The prelift zone (i.e., riser **1**, between inlets **4** and **5**) and first reaction zone (i.e., riser **1**, between inlet **5** and the transition) are defined by the same riser reactor portion **1**, and therefore, the ratio of the first reaction zone diameter to the prelift zone diameter is approximately 1:1.

Additionally, FIG. 8 clearly shows the second reaction zone **2** diameter being larger than the first reaction zone **1** diameter. In making a rough estimate of the zone diameters using FIG. 8, it would appear to one of ordinary skill in the art that the ratio of the second zone diameter to the first zone diameter is about 3:1. Kmecak, however, does not state the specific ratio of the second reaction zone **2** diameter to the first reaction zone **1** diameter of FIG. 8 within the specification.

Also, in making a rough estimate of the zone heights using FIG. 8, it would appear to one of ordinary skill in the art that the height of the first reaction zone **1**, between inlet **5** and the transition, is about 30% the height of the riser reactor, and the height of second reaction zone **2** is about 50% of the height of the riser reactor. Kmecak et al., however, does not state the specific height of the first reaction zone or the specific height of the second reaction zone **2**, as shown in FIG. 8, within the specification.

In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select the recited dimensions for each of the prelift zone, the first reaction zone and the second reaction zone in the riser reactor of Kmecak et al., on the basis of suitability for the intended use, because changes in size merely involves routine skill in the art, *In re Rose*, 220 F.2d 459, 463, 105 USPQ 237, 240 (CCPA 1955). Additionally, the precise dimensions of the respective zones of the riser reactor would have been considered a result effective variable by one having ordinary skill in the art, as evidenced by Williams. In particular, Williams et al. (column 4, lines 21-29) teaches a riser reactor wherein,

> "In each of the reactor sections **9**, **10**, **11** and **12**, reaction conditions suitable for substantially optimum conversion of the various hydrocarbon feedstreams introduced into the successive sections of the riser reactor to the desired products may be obtained by variations in vapor velocity, catalyst loading, feed preheats, and regenerator temperature. *The length and diameter of the various sections of reactor 2 are proportioned to maintain*

a desired reaction time in each section."

Accordingly, one having ordinary skill in the art would have routinely optimized the length and diameter of the various zones of the riser in the apparatus and process of Kmecak et al. in order to obtain the desired reaction conditions within each zone for achieving an optimum conversion of a specified hydrocarbon feed, *In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980), and where the general conditions of a claim are disclosed in the prior art, discovering optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 2, 18 and 26, Kmecak et al discloses the riser reactor may comprise a vertical length of about 49 meters, or about 160 feet (page 49, lines 7-23). Additionally, Kmecak et al. discloses, "The riser reactor may be substantially any desired vertical length which will be compatible with the adjacent catalyst regeneration apparatus..." (page 41, lines 15-20).

Regarding claims 3, 19 and 27, in making a rough estimate of the prelift zone height using FIG. 8, it would appear to one of ordinary skill in the art that the prelift zone **1** height, between inlet conduits **4** and **5**, is about 10% of the height of the riser reactor. Kmecak, however, does not state the specific height of the prelift zone within the specification. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select appropriate dimensions for the prelift zone in the riser reactor of Kmecak et al., on the basis of suitability for the intended use and absent showing any unexpected results thereof, because the precise dimensions would have been considered result effective variables by one having ordinary skill in the art, as evidenced by Williams et al (see above). Accordingly, one having ordinary skill in the art would have routinely optimized the diameter and height of the prelift zone relative to the dimensions of the riser reactor in the apparatus and process of

Kmecak et al. in order to obtain the desired reaction conditions and reaction time within the system for achieving an optimum conversion of a specified hydrocarbon feedstream, *In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980), and it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 6, 22 and 30, Kmecak et al. discloses an outlet zone having a height of 0% of the riser reactor height. Thus, a specific diameter for the outlet zone is not applicable.

Regarding claims 7, 23 and 31, Kmecak et al. further discloses, in FIG. 8, a first junction section (i.e., the frusto-conical transition zone, not labeled) between the first reaction zone (i.e., the riser **1** portion, above inlet **5**) and the second reaction zone (i.e., riser **2** portion), wherein the first junction section forms a circular truncated cone shape. Kmecak, however, does not specifically state that the first junction section has a "vertical section vertex angle" in the range of about 30° to 80° within the specification. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select an appropriate vertex angle for the first junction section in the apparatus and process of Kmecak et al., on the basis of suitability for the intended use and absent showing any unexpected results thereof, because the precise angle would have been considered result effective variable by one having ordinary skill in the art. Accordingly, one having ordinary skill in the art would have routinely optimized the vertex angle of the first junction section relative to the dimensions of the first and second reaction zones in the apparatus and process of Kmecak et al., in order to obtain the desired reaction conditions and reaction time within the system for achieving substantially optimum conversion of a specified hydrocarbon feedstream, *In re Boesch*, 617 F.2d. 272, 205 USPQ 215

(CCPA 1980), and it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 9, 14, 33 and 38, the same comments with respect to Kmecak et al. and Williams et al. apply. Kmecak et al. further discloses an outlet zone having a height of 0% of the riser reactor height. Thus, a specific diameter for the outlet zone is not applicable. Furthermore, the first reaction zone of Kmecak et al. will be inherently capable of being configured so that a hydrocarbon cracking reaction takes place at a higher reaction temperature, higher ratio of catalyst to oil, and shorter reaction time than, respectively, a reaction temperature, ratio of catalyst to oil, and a reaction time of the second reaction zone, by virtue of the placement of the feedstock inlet 5, catalyst inlet **3**, the relative reaction zone heights, and enlarged second reaction zone **2** diameter with respect to the first reaction zone **1** diameter (see FIG. 8).

Regarding claims 10 and 34, the same comments with respect to Kmecak et al. apply. (see comments made regarding claims 2, 18 and 26 above).

Regarding claims 11 and 35, the same comments with respect to Kmecak et al. and Williams et al. apply. (see comments made regarding claims 3, 19 and 27 above).

Regarding claims 15 and 39, the same comments with respect to Kmecak et al. apply. (see comments made regarding claims 7, 23 and 31 above)

Regarding claims 49-51, 56 and 57, Kmecak et al. further discloses a conduit (i.e., inlet **7** or **8**; FIG. 8) adapted to supply a quenching medium or a reactable feedstock (i.e., residual oil feed via inlet 7; steam and/or water introduced as diluent via inlet **8**; page 40, line 1 to page 41, line 6) between the first reaction zone (i.e., the riser **1** portion, between inlet **5** and the transition)

and the second reaction zone (i.e., the riser **2** portion). The quenching medium inlet inherently functions as a heat exchanger in the second reaction zone **2**, for cooling at least a portion of hydrocarbon and catalyst passing from the first zone to the second zone.

Regarding claim 54, Kmecak et al. further discloses a conjunct zone (i.e., the frusto-conical transition zone, not labeled, see FIG. 8) between the first reaction zone (i.e., the riser **1** portion, above inlet **5**) and the second reaction zone (i.e., riser **2** portion).

Regarding claim 55, Kmecak et al. further discloses a conduit (i.e., inlet **9** or **10**; FIG. 8). adapted to introduce quenching medium (i.e., residual oil feed via inlet **9**; steam and/or water introduced as diluent via inlet **10**; page 40, line 1 to page 41, line 6) between the second reaction zone **2** and the outlet zone.

4. Claims 8, 16, 24, 32 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kmecak et al. (EP 0 171 460) in view of Williams (US 4,422,925), as applied to claims 1, 9, 17, 25 and 33 above, and further in view of Watts (US 2,377,657).

Kmecak et al. is silent as to the riser reactor being configured with an outlet zone and a second junction section located between the second reaction zone **2** and the outlet zone, wherein the second junction section has a circular truncated cone shape. Watts (see FIG. 1) teaches a riser reactor **11** comprising an outlet zone (i.e., the upper narrowed portion of reactor **11**) and a conjunct section (i.e., labeled as false head **16'**) located between the outlet zone and a reaction zone, wherein the outlet zone has a circular truncated cone shape (page 2, column 2, lines 49-66). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the riser reactor of Kmecak et al. to comprise an outlet zone and second junction zone, on the basis of suitability for the intended use thereof, because, "When the diameter of the

reactor is narrowed at its upper end and a false head **16'** is adjustably supported therein, the effective volume of the catalyst chamber, i.e., the dense phase catalyst level therein may be easily controlled," as taught by Watts. Although the collective teachings of Kmecak, Williams and Watts are silent as to the second junction section having a vertical section vertex angle with respect to the reactor axis in the range of about 45 to 80 degrees, it would have been obvious for one of ordinary skill in the art at the time the invention was made to select an appropriate vertex angle for the second junction section in the modified apparatus and process of Kmecak et al., on the basis of suitability for the intended use and absent showing any unexpected results thereof, because the precise angle would have been considered result effective variable by one having ordinary skill in the art. Accordingly, one having ordinary skill in the art would have routinely optimized the vertex angle of the first junction section relative to the dimensions of the first and second reaction zones in the modified apparatus and process of Kmecak et al., in order to obtain the desired reaction conditions and reaction time within the system for achieving substantially optimum conversion of a specified hydrocarbon feedstream, *In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980), and it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

5. Claims 52, 53 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kmecak et al. (EP 0 171 460) in view of Williams (US 4,422,925), as applied to claim 1 above, and further in view of Carr et al. (US 3,639,228).

Kmecak et al. is silent as to the quench medium comprising catalyst (e.g., regenerated catalyst with a residual carbon content of less than about 0.1 wt%, semi-regenerated catalyst

having a residual carbon content of at least 0.1 wt% to about 0.9 wt%, or fresh catalyst). Carr (FIG. 1) teaches the introduction of catalyst at various locations (i.e., via catalyst pipes **18** and **20**) downstream from the inlet of the reactor (i.e., adjacent catalyst inlet **16**). The catalyst may comprise regenerated or semi-regenerated catalyst (i.e., regenerated catalyst with a level of carbon on the regenerated catalyst from about 0.05 to 0.3 percent by weight; column 5, lines 34-59), as well as fresh catalyst (i.e., supplied via make-up catalyst line **66**). It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a quenching medium comprising catalyst to the riser reactor in the modified apparatus of Kmecak et al., on the basis of suitability for the intended use thereof, because the downstream injection of additional catalyst increases the yield and selectivity of the cracking reaction within the riser reactor by shifting a major portion of the cracking reaction away from the inlet end of the reactor and thereby distributing the cracking reaction over the length of the riser rather than concentrating the reaction at the inlet of the riser, as taught by Carr et al. (column 1, lines 33-73).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

* * *

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer A. Leung
October 13, 2006

ALEXA DOROSHENK NECKEL
PRIMARY EXAMINER